

WHAT IS CLAIMED AS NEW AND IS DESIRED TO BE SECURED BY LETTER
PATENT OF THE UNITED STATE IS:

1. A printing system, comprising:
 - a network;
 - a plurality of printers, each of said plurality of printers being connected with the network;
 - a plurality of client devices, each of said plurality of client devices being connected with the network and configured to generate printing data for printing and header information for the printing data, according to an instruction of a user of the system, wherein said header information includes,
 - at least a user ID of user,
 - a printer ID of one of the plurality of printers for printing the printing data, and
 - a printing condition specifying printing functions of the printer used for printing the printing data with the printer; and
 - a print restriction server configured to register, for each user ID, print restriction information including a printer ID of each printer usable by a user of said each user ID, printing functions of the printer usable by the user of said each user ID,
 - to issue a ticket allowing use of the printer of the printer ID included in the header information based on the header information received from each client device, and
 - to transmit said ticket allowing use of the printer of the printer ID included in the header information to the client device,
 - wherein each of the printing functions specified by the printing condition in the header information is included in the print restriction information registered for the user ID included in the header information, wherein upon receipt of the ticket from the print restriction server, each client device is configured to generate a printing request including the printing data, the header information, and the received ticket; and
 - wherein each client device is configured to transmit the printing request to the printer of the printer ID included in the header information; and
 - each printer is configured to execute, when the printing request is received and if the

ticket is included in the received printing request, a printing operation to print the printing data included in the received printing request.

2. The printing system according to Claim 1,
wherein each printer is configured to authenticate the ticket included in the received printing request and to execute the printing operation when the ticket is authenticated.

3. The printing system according to Claim 1,
wherein the print restriction server is configured to encrypt the issued ticket before transmitting the ticket to the client device, and
wherein each printer is configured to decrypt the received encrypted ticket before executing the printing operation.

4. The printing system according to Claim 1,
wherein the print restriction server is configured to assign an individual number to each ticket when issuing the ticket.

5. The printing system according to Claim 4,
wherein the print restriction server includes a random number generating device, and
wherein the random number generating device issues a random number for the individual number of each ticket.

6. A printing system, comprising:
a network;
a plurality of printers, each connected with the network;
a plurality of client devices, each connected with the network and configured to generate printing data for printing and header information for the printing data, according to an instruction of a user of the system, the header information including a user ID of the user, a printer ID of the printer for printing the printing data, and
a printing condition specifying printing functions of the printer used for printing the printing data with the printer; and

means for registering print restriction, for each user ID, print restriction information including

a printer ID of each printer usable by the user of the user ID, and
printing functions of the printer, usable by the user, and

means for issuing and transmitting, in response to the header information received from each client device, a ticket allowing use of the printer of the printer ID included in the header information, to the client device, when each of the printing functions specified by the printing condition in the header information is included in the print restriction information registered for the user ID included in the header information,

wherein each client device is configured to generate, after receiving the ticket from the print restriction server, a printing request including the printing data, the header information, and the received ticket, and to transmit the printing request to the printer of the printer ID included in the header information, and

wherein each printer is configured to execute, when the printing request is received and if the ticket is included in the received printing request, a printing operation to print the printing data included in the received printing request.

7. A method of printing printing data in a printing system including a plurality of printers, the method comprising the steps of:

generating the printing data and header information for the printing data with an issuing client device, according to an instruction of a user of the system, the header information including a user ID of a user, a printer ID of one of the plurality of printers for printing the printing data, and a printing condition specifying printing functions of the one of the plurality of printers used for printing the printing data with the printer;

registering, for the user ID, print restriction information including a printer ID of each printer usable by the user of the user ID, and printing functions of the printer, usable by the user, at a print restriction server;

issuing, by the print restriction server, in response to the header information received from each client device a ticket allowing use of the printer of the printer ID included in the header information, and

transmitting the ticket to the issuing client device when each of the printing functions specified by the printing condition in the header information is included in the print

restriction information registered for the user ID included in the header information;

generating by the issuing client device, after receiving the ticket from the print restriction server, a printing request including the printing data, the header information, and the received ticket, and transmitting the printing request to the printer of the printer ID included in the header information; and

executing a printing operation at the printer, when the printing request is received and if the ticket is included in the received printing request, to print the printing data included in the received printing request.

8. The method according to Claim 7,
wherein the executing step includes authenticating the ticket, and
wherein in the executing step the printing operation is executed when the ticket is authenticated in the authenticating step.

9. The method according to Claim 7,
wherein the one of issuing and transmitting step includes encrypting the issued ticket,
wherein one of the issuing and transmitting step includes transmitting the ticket to the print requesting client device after having been encrypted in an encrypting step,
wherein the executing step includes decrypting the encrypted ticket, and
wherein the executing step executes the printing operation after the encrypted ticket is decrypted in the decrypting step.

10. The method according to Claim 7,
wherein one of the issuing and transmitting steps include assigning an individual number to each ticket.

11. The method according to Claim 10,
wherein the assigning step includes issuing a random number as the individual number of each ticket.

12. A method of printing data in a printing system including at least one printer, the method comprising the steps of:

generating a printing request at a client device;
transmitting the printing request to a printer control device which is separate from the client device and a printer;
sending acknowledgement to the client device from the printer control device;
receiving the acknowledgement at the client device from the printer control device;
and
printing printing data at the printer in response to the acknowledgement without sending the printing data to the printer control device.

13. The method according to Claim 12, wherein the printing step comprises printing the data at the printer directly connected to the client device.

14. The method according to Claim 13, wherein the printing step comprises printing data at the printer which is unconnected to a network.

15. The method according to Claim 12, wherein the generating a printing request step comprises generating printing data and header information for the printing data with a client device, according to an instruction of a user of the system, the header information including a user ID of the user, a printer ID of the printer for printing the printing data, and a printing condition specifying printing functions of a printer required for printing the printing data with the printer.

16. The method according to Claim 12, wherein the sending acknowledgement step comprises issuing, in reply to the printing request, a response allowing use of the printer of a printer ID included in header information.

17. The method according to Claim 16, wherein the response allowing use of the printer includes at least one printing function specified by a printing condition in the header information and the header information is included in print restriction information registered for a user ID included in the header information.